#### STATE OF IOWA

#### BEFORE THE IOWA UTILITIES BOARD

IN RE:

OFFICE OF CONSUMER ADVOCATE,
Petitioner.

v. DOCKET NO. FCU-2016-0011

INTERSTATE POWER AND LIGHT COMPANY,
Respondent

# DIRECT TESTIMONY OF SHIRLEY K. STIBB

- 1 Q. Please state your name and business address.
- 2 A. My name is Shirley K. Stibb. My business address is 4902 N. Biltmore
- 3 Lane, Madison, Wisconsin 53718.
- 4 Q. By whom are you employed and in what capacity?
- 5 A. I am employed by Alliant Energy Corporate Services, Inc. as Manager –
- 6 Customer Support Technical Services.
- 7 Q. Please explain your educational background and your work
- 8 **experience.**
- 9 A. I attended the University of Wisconsin-Whitewater before joining Alliant
- 10 Energy's Wisconsin utility, Wisconsin Power and Light Company (WPL), in
- 11 1996. During the course of my 20 years with the company, I have held a
- variety of roles in the Customer Billing area, serving as Manager from
- 13 2007 to 2012, at which time I was selected as a Solution Lead for Alliant

Energy's Modern Customer Information System (MCIS) project. During the project, I represented the Billing and Metering areas to design, construct, and plan for the implementation of the new Customer Care and Billing (CC&B) system. I accepted my current role in May 2015. The Customer Support Technical Services team I lead is part of the Customer Support Services department, and we work closely with both the Customer Support and Information Technology Services areas to operate the CC&B application and support employees who use the system to deliver service to our utility customers.

### Q. What is the purpose of your testimony?

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11 A. I will provide a detailed explanation of how the CC&B system works as it
12 relates to the bill-estimation processes. I will also describe a May 2016
13 software patch that resulted in additional unintended estimates, the fix that
14 was made to that software patch, and additional changes to the CC&B
15 system and bill estimation logic, which will minimize the need for IPL to
16 issue estimated bills and improve the estimates that are issued.

## Q. Are you sponsoring any exhibits in this filing?

- 18 A. Yes. I am sponsoring IPL Exhibit Stibb Direct, which includes the following schedules:
- 20 Schedule A: Overview of CC&B Hi/Lo Check Process; and
- 21 Schedule B: IPL Bill Format.

### I. System Safequards to Validate Meter Reads

- Q. How does the CC&B system ensure that meter readings used forbilling are correct?
- A. Each meter read received by the CC&B application is reviewed using parameters that allow the system to confirm the accuracy of the read when compared to a previous read for the same meter. This schema is referred to as the "high/low" (Hi/Lo) check.
- 8 Q. Please explain how the Hi/Lo check works.

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If the difference between the current meter read and the previous read falls outside of the range of 25% to 150% of an estimated usage created by the three-step estimation logic described below, CC&B flags the meter read as an exception. The range is the same for electric and natural gas meters. After this primary Hi/Lo check, the CC&B system then executes a subsequent validation using a certain number of units (in kilowatt-hours [kWh] for electricity or 100 cubic feet [ccf] for natural gas) either just below the 25% calculated estimate or just above the 150% calculated estimate. If the meter read falls within the parameters of the secondary validation, then the meter read will be used on the bill. As a result any meter read that passes the secondary validation is auto-closed by CC&B, and the bill is computed using the actual read. If the read fails the secondary validation step, the system generates a "To Do." A To Do is a follow-up work item generated by the system, triggered by an exception or based on a business-validation rule. Hi/Lo check To Dos require manual review and

<sup>&</sup>lt;sup>1</sup> The calculation of estimates when there is no meter read is described at page 7.

1 action to resolve.

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See IPL Exhibit Stibb Direct Schedule A for a summary of the Hi/Lo check parameters and a simplified explanation of the system flow.

# Q. How is this system different than the legacy system in regard to Hi/Lo check parameters?

The Hi/Lo check parameters for IPL's legacy billing system were 25% to 107% for electric and 25% to 110% for gas. The legacy system also included a check that considered maximum unit thresholds by revenue class. If the usage was under the defined maximum units, the high review was not conducted. If the usage was above the defined maximum units, the high percentage threshold was reviewed. This resulted in fewer manual reviews needing to be done, even though the thresholds were different. The bill was generated and held for manual review to determine if the usage was accurate. In all instances where the low percentage failed, the bill was generated and mailed to the customer but flagged for review to determine if further follow up was required.

This difference in approach is the direct result of the additional power provided by CC&B. With the change to the new application, IPL has been able to leverage new functionality to ensure that more account reviews are done to ensure billing accuracy. One of the key changes is the ability to use more defined and customer-specific usage history to determine if the current month billing is in line with historical bills. The legacy system used units per type of customer and that was applied to all customers of that specific type. The CC&B application was designed to

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align customer-specific information within the parameters. Although the parameters are wider with the CC&B application, more reviews are generated due to using customer-specific information. The number of reviews generated will moderate over time as additional customer-specific usage data is collected and utilized by CC&B.

### 6 Q. Please explain the To Do manual review process mentioned above.

A. A To Do is worked by a Customer Support Center (CSC) employee in the Billing department and must be completed before the meter read can be used to calculate the bill. If the manual review is not completed within a certain allotted time, CC&B considers the read to be invalid and the usage for the bill will be estimated. The approach described is base functionality for the CC&B system, though the usage parameters are configurable.

# Q. How were the parameters or thresholds used for Hi/Lo check determined?

At the time CC&B was configured, we conducted a month-long parallel system test that involved a review of all 21 billing cycles for that month and a comparison of the number of meter-read exceptions flagged by the legacy Customer Information System (CIS) and the new CC&B system. The objective was to determine the appropriate thresholds for the Hi/Lo check, with a particular focus on the volume of To Dos that the system would generate based on the set parameters.

The parallel testing allowed for a thorough evaluation of the appropriate range of variance outside of the primary Hi/Lo parameters (set at 25% to 150%, as described above) and established thresholds for the

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secondary validation step for those reads that the system identified as a variance but for which there was a reasonable explanation, such as natural gas meters with zero or low consumption during the non-heating season. As a result of the parallel testing and analysis, we set parameters or thresholds for "very low" and "slightly above" usage. The "very low" usage was defined as 0 to 10 units (in kWh of electricity or ccf of natural gas) and the "slightly above" usage was defined as 10 units above the threshold for natural gas and 500 units above the threshold for electricity. These thresholds are depicted in IPL Exhibit Stibb Direct Schedule A.

### Q. What was determined from the parallel testing analysis?

- Based on the parallel testing analysis, we determined that instances in which the usage failed due to very low usage, or usage slightly above the high threshold, the system would generate a Hi/Lo check To Do but the CC&B application would auto-close those Hi/Lo check To Dos and mark the actual read as "use on bill." The auto-close process completed approximately 70% of the total Hi/Lo check To Dos, allowing the actual read to be used for computing the bill. As such, the secondary validation step allowed CC&B to complete Hi/Lo check To Dos without manual intervention in the following scenarios:
  - The total actual usage was very low (between 0 and 10 units for either electric or natural gas); or
  - Natural gas meters where the actual usage was slightly above the high limit (10 or less units); or
  - Electric meters where the actual usage was slightly above the high limit (up to a maximum of 500 units).

1 The auto-close process eliminates the need for a manual review of those 2 reads that would routinely be deemed valid, allowing for greater focus on 3 those reads that may, in fact, be invalid and are worthy of closer review. 4 **II. Bill-Estimation Methodology** 5 Q. How does CC&B estimate usage if a valid meter read is not available 6 to compute the bill? 7 CC&B utilizes a three-step logic to determine an appropriate estimate of Α. 8 consumption: 9 Step One: Average daily usage from same month prior 10 year; or, if not available, 11 • **Step Two:** Average daily usage from the prior month; or, 12 if not available. 13 Step Three: Usage trends of customers in similar 14 geographical location. 15 Q. How was it decided that the three-step estimation logic would be 16 used? 17 As part of its base functionality, the CC&B application offers both the Α. 18 well three-step algorithm as as а "trend-based" approach. 19 PriceWaterhouse Coopers (PwC), which served as the system integrator 20 for the MCIS project, advised that most of its utility clients choose the 21 three-step approach during implementation, primarily due to the concern 22 of a lack of quality trend data to use as the primary method of estimation. 23 IPL evaluated both methods during the parallel testing and 24 determined that, with the additional customer-specific usage information 25 available in CC&B, the three-step estimation logic was superior to the

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"trend-only approach" that uses geographic data to determine the estimate. Thus, while "trend" is the third step in the three-step estimation logic used by CC&B, leveraging actual customer-specific historical usage data to calculate the estimate was determined to be a more accurate estimation method that also took into consideration each customer's specific usage pattern based on weather trends and other factors. As trend data is collected in CC&B over time, it will become more useful and more accurate. I describe below efforts IPL is currently undertaking to enhance the third-step of the estimation methodology.

Finally, IPL has always planned to reevaluate the estimation logic after CC&B had been in-service for one year. The CC&B data model is extremely robust, especially when compared to the IPL legacy system.

- Q. Office of Consumer Advocate (OCA) witnesses Dr. Keva Hibbert and Mr. Brian W. Turner take exception to the three-step estimation logic. How do you respond?
  - The OCA witnesses claim fault with this three-step logic, but do not provide an alternative to this approach, which is one of two base offerings from Oracle's CC&B application and the one most commonly used by PwC's clients. IPL scheduled a review of the critical parameters of CC&B after one year of operation, and will evaluate any necessary changes to the estimation logic at that time. However, in recognition of concern regarding the increase in the number of estimated bills, IPL is evaluating opportunities to pilot a modified estimation logic to further improve bill estimates.

### Q. Please explain.

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We are performing a thorough review of the way in which the three-step logic is functioning in CC&B and its impact on the accuracy of estimated bills sent to customers, especially when compared to the estimation logic that existed in the legacy system. One specific change we are actively evaluating is an adjustment to the algorithm used in the "trend" analysis (Step Three) that is applied when the system does not have sufficient data to estimate usage based on customer-specific historical usage, such as in situations of new construction. We believe modifications to the parameters evaluated in Step Three will result in more precise estimates, though the results must be validated through system testing before a change can be made.

Further, for the Step Three trend analysis, we are expanding the number of similar customers in the same geographic area, which will limit the number of outliers when comparing those customers' usage. This will contribute to more accurate estimates based on usage in defined geographic areas. A preliminary review of the impacts of such system changes indicates these remedies will help to reduce the number of bills that are flagged for manual review. The analysis and testing of these potential changes is currently in progress, with changes to be piloted in the first quarter of 2017.

OCA witnesses Dr. Hibbert, in her direct testimony at pages 3-4, and Mr. Turner, at his direct testimony at pages 8-9, state that IPL has not been compliant with the code requirement to sell electricity based on

meter measurement. Do you have a response?

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Yes. IPL is selling electricity based on meter measurement. On occasion

IPL bills on the basis of estimates, but it ultimately trues up those bills

based on accurate meter measurements. OCA's testimony appears to

favor a prohibition on issuing estimated bills, no matter the situation. The

Board rules, however, allow for estimated bills, which are a part of typical

industry practice. IPL's conclusions in this regard are more fully discussed

in IPL witness Mr. Lawry's direct testimony.

# Q. Did IPL test its Hi/Lo settings and the impact they might have on bill estimates prior to implementing CC&B?

Yes. During the month-long parallel testing, both the Hi/Lo settings and the bill-estimation logic were tested. The testing showed that the three-step estimation process and the percentages and unit reviews for Hi/Lo were acceptable and prudent for the first year of implementation. It was also determined that those decisions would be reviewed and analysis conducted for further changes one year after implementation for both IPL and WPL. The Hi/Lo check is performed to ensure accuracy in meter reading and to prevent inaccurate bills being sent to customers. Reads are not deemed as accurate until reviewed either systematically (based on parameters set) or manually by a user.

### **III. Response to Customer Concerns**

- Q. Has IPL identified the cause or causes of the unanticipated numbersof estimated bills this in the summer and early fall?
- 24 A. Yes. As described more fully in the testimony of IPL witnesses Mr. Lawry,

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Ms. Brown and Ms. Cigrand, a variety of issues occurred at the same time to increase the number of estimated bills. I will discuss one of those issues, a patch to CC&B.

As a result of the increase in estimates and customer complaints, IPL performed a thorough analysis to determine the root causes of the increased number of estimated bills. IPL engaged the services of PwC to assist with the analysis. That analysis revealed an unintended consequence of some system updates that were done in the spring. Specifically, in May of 2016, IPL's I.T. department deployed a system patch to CC&B. Its purpose was to remove interval-billed customers from the Hi/Lo unit review, as they are billed through a different module within the CC&B application. Although the patch went through standard testing, it had an inadvertent and undetected impact on non-interval-billed customer bills within the Hi/Lo unit review. From its installation, and until it was discovered and fixed, the patch caused over 46,000 residential customer bills to be sent as estimates that should have otherwise been issued as "read and auto-closed" by CC&B because they fell within the unit-based Hi/Lo thresholds. In other words, the patch resulted in estimated bills being sent to customers even though the reads fell within the established parameters and should have been used. The patch affected approximately 1.15% of the residential bills issued by IPL from the February 15, 2016 CC&B go-live in Iowa through October 31, 2016. The issue with the patch was identified on November 2, 2016, and fixed the same day.

Q. OCA witness Mr. Turner at pages 8 through 9 of his direct testimony suggests that Board rules prohibit estimates when the utility has

actual reads. Do you have a response to that suggestion?

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- Yes. The rule he cites, 199 IAC 20.3(6), allows for up to three months of estimates or longer in unusual circumstances. It states that estimates are allowed "if an actual meter reading cannot be obtained." It does not appear to prohibit estimates for other reasons—for example, if the meter has been read but the reading does not accurately reflect use, due to a malfunctioning meter or some other issue. The process that IPL goes through to verify the meter reads, including manual review where appropriate, is an important part of determining whether the meter read is accurate and can be used for billing the customer. Obtaining a read and using it without attempting to confirm that it is accurate whether that confirmation comes from a manual review or a system review utilizing a Hi/Lo check prevents a utility from determining whether the read is "actual" (i.e., accurate).
- 17 Q. Beyond fixing the patch the same day it was discovered, is IPL
  18 pursuing any other changes to the system in order to limit the
  19 number of bills that may be selected for manual review?
- A. Yes. While IPL continues to believe in the advice of its system-integration partner, PwC, that no major modifications should be made to CC&B prior to a one-year review of system performance, like the Board and OCA, we are concerned about the increased number of estimated bills generated

- this summer and early fall. As a result, and after working closely with PwC, we are currently evaluating and expect to recommend implementation of a number of system changes that will to help to limit the number of bills flagged for manual review. The changes are set forth on IPL Exhibit Lawry Direct Schedule A and include:
  - Adjusting the unit-based thresholds used in the Hi/Lo check to reduce the number of estimated bills.
  - Modifying the selection criteria to increase the minimum number of reads evaluated by the estimation algorithm when using the trend-based calculation. This will help reduce the number of Hi/Lo check To Dos and also help to produce more precise estimates when there is insufficient read history.
  - Carefully calibrating the calendar-day-based meter-reading windows and the bill-cycle schedule, especially around holidays, to ensure valid meter reads are not disregarded by the system due to timing.
  - Holding for manual review any bill that has been estimated because CC&B automatically estimated the usage due to the meter read being obtained on the last day of the billing window. Such bills will now be released only after the meter read is verified or corrected, thus helping to eliminate one factor that causes some bills to be estimated.<sup>2</sup>
  - Intercepting bills that have been estimated when a meter read is available in the system to avoid estimated bills from being sent when a manual review has not been completed within the billing window.

Additionally, we have deployed a near-real-time dashboard to monitor and group the number of estimated bills based on the reason they are being estimated to identify gaps in processes or technology that can be addressed by future system enhancements. IPL is also creating

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<sup>&</sup>lt;sup>2</sup> Please see the testimony of Ms. Brown for information on the meter reading efforts to complete the majority of meter reads on days 1-3 of the route cycle, thus reducing the number of reads that occur on the last day of the route cycle.

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additional billing system queries to assist CSC representatives. Specifically, additional information will be made available on a daily basis to CSC representatives, including information on the number of times a customer has received an estimated bill. This additional information will provide awareness to the reviewer to both assist in determining if remedial actions are required to avoid future estimated bills and to support prioritization of To Dos. IPL CSC staff efforts will focus on eliminating the instance of three months of estimated bills in a row for a customer by prioritizing manual review of bills at two months of estimates. These changes are also reflected on IPL Exhibit Lawry Direct Schedule A.

These technical solutions, along with the additional resources described by Ms. Brown and Ms. Cigrand in their direct testimony, will help to ensure that only in limited circumstances will an estimated bill be issued.

# Q. Will IPL continue to monitor CC&B and how it processes bills that may require a manual review?

Absolutely. As described earlier, IPL has an annual review scheduled, which will examine CC&B's performance. It will build upon a similar review that is currently underway in WPL, which went live with CC&B in October 2015. IPL will make any necessary changes to ensure that the system continues to perform to expectations. IPL will be prepared to report back to the Board on the results of that evaluation in the second quarter of 2017, if desired by the Board.

### Q. OCA witness Dr. Hibbert at pages 7-9 of her direct testimony

suggests that IPL customers who received bills that did not get manually reviewed were unaware of the fact that their bills were estimated. Is that accurate?

I cannot speculate as to whether or not customers realized that their bills had been estimated. However, all estimated bills had written indications in two separate locations on the bill noting that they were estimated. To make it even more apparent to customers that a bill has been estimated, IPL has recently (as of November 7, 2016) added a third statement on the bill to indicate that it is estimated. See IPL Exhibit Stibb Direct Schedule B and IPL Exhibit Lawry Direct Schedule A. It is only through the flexibility of CC&B that such a quick change could be made – one of several benefits of the system.

- 13 Q. Does this conclude your direct testimony?
- 14 A. Yes.

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#### STATE OF IOWA

#### **BEFORE THE IOWA UTILITIES BOARD**

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OFFICE OF CONSUMER ADVOCATE, Petitioner,

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INTERSTATE POWER AND LIGHT COMPANY,
Respondent

**DOCKET NO. FCU-2016-0011** 

## AFFIDAVIT OF SHIRLEY K. STIBB

STATE OF WISCONSIN	)
	) ss.
COUNTY OF DANE	)

I, Shirley K. Stibb being first duly sworn on oath, depose and state that I am the same Shirley K. Stibb identified in the Direct Testimony; that I have caused the Direct Testimony, including any exhibits, to be prepared and am familiar with the contents thereof; and that the Direct Testimony, including any exhibits, is true and correct to the best of my knowledge and belief as of the date of this Affidavit.

/s/ Shirley K. Stibb Shirley K. Stibb

Subscribed and sworn to before me, a Notary Public in and for said County and State, this 23<sup>rd</sup> day of November, 2016.

<u>/s/ Annette Behnke</u>

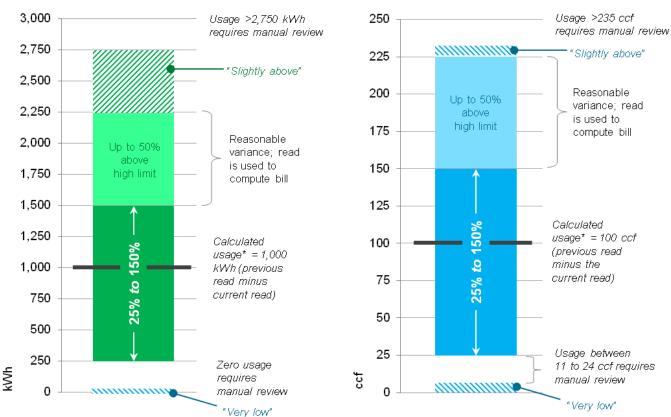
Annette Behnke Notary Public My commission expires on May 1, 2019

# OVERVIEW OF ORACLE CUSTOMER CARE AND BILLING (CC&B) HI/LO CHECK PROCESS

	Review Parameters	Next Step
Primary Hi/Lo Check	Compare current meter read to range of 25% to 150% of previous meter read	If pass, use read on bill (no To Do is created)  If fail, CC&B creates Hi/Lo check To Do and read advances to Secondary Hi/Lo Check
Secondary Hi/Lo Check	"Very low" = 0 to 10 units or "Slightly above" = Up to 10* units above the reasonable variance	If pass, use read on bill (CC&B auto-closes To Do)  If fail, create Hi/Lo check To Do for manual review

<sup>\*</sup> Up to 500 units for electric





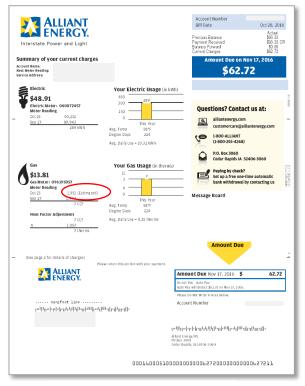
<sup>\*</sup> For the purposes of the example above, "calculated usage" is the expected meter read differential

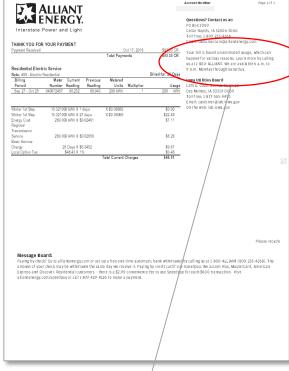
Solid colored areas are considered valid meter reads within CC&B and are automatically used to compute the bill

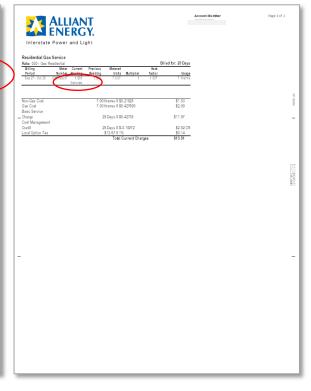
Shaded areas are within the "very low" or "slightly above" variances determined by IPL; CC&B has been configured to autoclose Hi/Lo check To Dos it creates

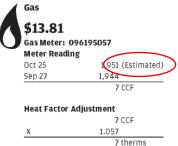
# **Customer Bill Format**

IPL's bill format has multiple callouts when a customer's bill is based on estimated usage









Your bill is based on estimated usage, which can happen for various reasons. Learn more by calling us at 1-800-ALLIANT. We are available 6 a.m. to 9 p.m. Monday through Saturday.

#### Residential Gas Service

Billing	Meter	Current	Previous	Metered
Period	Number	Reading	Reading	Units
Sep 27 - Oct 25	096195057	1,951	1,944	7 CCF
		Estimate	)	

